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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,211	02/27/2004	Chein-Wei Jen	BHT-3230-88	4688

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EXAMINER	
MOLL, JESSE R	
ART UNIT	PAPER NUMBER
2181	

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/787,211	Applicant(s) JEN ET AL.	
	Examiner Jesse R. Moll	Art Unit 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

H3m
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Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-5 have been examined.

Acknowledgment of papers filed: amendment, on 16 August 2006. The papers filed have been placed on record.

Withdrawn Objections/Rejections

2. Applicant, via amendment has overcome the objection to claim 3. Therefore, the objection has been respectfully withdrawn.

3. Applicant, via amendment has overcome the rejection to claims 1-5 under 35 U.S.C. 112, second paragraph. Therefore, the rejection has been respectfully withdrawn.

Claim Objections

4. Claim 4 is objected to because the limitation "claim1" on line 2 should read "claim 1". Further, claim 4 recites the limitation "the said of partitioned register files". Examiner assumes this read "the size of partitioned register files" as stated in the previous set of claims.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 4 recites the limitation "wherein neither the said of partitioned register files nor the number of the said ports is scalable. The specification does not disclose how to make non-scalable portioned register files. For the purpose of examination, Examiner assumes the limitation read "wherein the size of portioned register files and number of said ports are scalable."

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-5 are rejected under 35 U.S.C. 102(a and e) as being anticipated by Berenbaum et al. (U.S. Patent Number 6658551 B1) herein referred to as Berenbaum.

9. Regarding claim 1, Berenbaum discloses a method for inter-cluster communication that employs register permutation, wherein the clustered functional units (Functional Units [FU]; see fig. 8) have some global registers (Register Files; see fig. 8), and the said clustered functional units exchange data (with Input Crossbar Switch; see fig. 8) without actual data movement (banks are chosen by changing the crossbar switch not by copying data to the other register files; by controlling the crossbar switch, the connections between register files and functional units is changed without moving data) by permuting the said global registers of each cluster (see col. 7, lines 8-15).

Note that according to WordNet ® 2.0, © 2003 Princeton University, permute is defined as "change the order or arrangement of". Moving register data from a register file to a functional unit is considered permuting the registers. Further note that by using the crossbar switch, the system can select which register bank is used by which execution unit.

10. Regarding claim 2, Berenbaum discloses the method for inter-cluster communication that employs register permutation according to claim 1, wherein the

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register permutation is done by dynamically changing the port mapping between the global registers and the functional units (with Input Crossbar Switch, see fig. 8).

Note that routing data from one place to another is considered mapping.

Therefore, changing the destination of the register is considered changing the port mapping.

11. Regarding claim 3, Berenbaum discloses the method for inter-cluster communication that employs register permutation according to claim 2, wherein the said port mapping is done by a routing structure (Input Crossbar Switch; see fig. 8).

12. Regarding claim 4, Berenbaum discloses the method for inter-cluster communication that employs register permutation according to claim 1, wherein the size of said ported register file and number of said ports are scalable (see cols. 5-7; note the variables N and K showing the scalability).

Further note that in any register file, the size is scalable. It would always be possible with minimal redesign to change the number of registers or ports. The claim merely states that the register file be able to have different sizes (be scalable).

13. Regarding claim 5, Berenbaum discloses the method for inter-cluster communication that employs register permutation according to claim 1, further comprising any number of cluster structures (M; see fig. 8).

Response to Arguments

14. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

15. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., not requiring "extended accesses") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse R. Moll whose telephone number is (571)272-2703. The examiner can normally be reached on M-F 10:00 am - 6:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz M. Fleming can be reached on 571-272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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JM 10/25/06

Jesse R Moll

Examiner

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10/26/2006